Continuing research into the properties of acylated cellobiose materials and compositions structured using them has shown that variations in the structurants can result in changes to various of the properties of the structured compositions, including amongst other things the thermal stability of the final structured material, the resistance of the structurant to crystallisation in situ, and the clarity and hardness of the composition.

α-cellobiose octanonanoate has been shown to be an extremely good structurant for water-immiscible liquids, including silicone fluids and water-immiscible emollient liquids employed in many cosmetic compositions. However, ongoing research into the acylated cellobiose structurants has indicated that its thermal stability could be improved and that long term storage can lead to a gradual reduction in clarity. This would appear from studies to be associated with crystallisation of the structurant. Either effect conveys self-evident disadvantages. Loss of structural strength with time limits the shelf life of the product and a reduction in clarity can be taken by consumers as a visual cue that efficacy has been impaired. Consumer formulations can take a long time to pass through conventional manufacture and distribution channels and can sometimes also spend a long time on consumers' shelves before or during use, so that it is desirable to find ways of ameliorating or overcoming any negative effects that would otherwise arise during storage. It will, of course, be recognised that any changes made should endeavour not to sacrifice any of the other beneficial properties of the products.

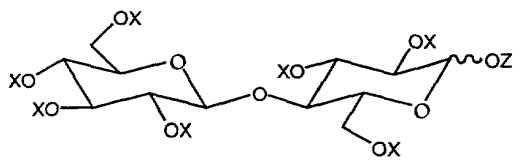
However, many compositions are desirably translucent or transparent and the controlled hardness of the composition remains an important characteristic. Consequently, any change made to the formulation or alternative selection made from the class of acylated cellobiose materials should endeavour to minimise or even overcome and reverse any impairment to the other properties of the structurant which might arise when seeking to improve one of the properties. By way of example, measures to improve stability against in situ crystallisation can reduce hardness. Mixtures of the materials can be contemplated and then some trade-off in the performance of the structurant mixture compared with its constituents has been observed.

It is an object of the present invention to provide an alternative acylated cellobiose which demonstrates an attractive combination of properties, particularly in the context of acting as a structurant for a water-immiscible liquid.

It will be understood, however, that although the material of the instant invention is contemplated especially for use in cosmetic formulations, its potential use is much wider, including the structuring of a water-immiscible liquid to make a cream, soft solid or stick for any other purpose. Such other purposes could include topical medicaments, topically applied veterinary products or animal cosmetics and waxes or polishes.

Brief Description of the Invention

According to a first aspect of the present invention there is provided as a new compound, an acylated cellobiose satisfying the general formula:



in which X represents an acyl group (R-CO-) or H, Z represents an acyl group (R'-CO-) or H and not more than a minority of X + Z residues represent H,

R represents a saturated or unsaturated, linear or branched chain hydrocarbon residue containing from 5 to 31 carbon atoms and

R' represents a residue which is different from R and which is :-

(i) a saturated or unsaturated, linear or branched chain hydrocarbon residue containing from 1 to 31 carbon atoms, optionally substituted or;

(ii) an aromatic hydrocarbon residue, optionally substituted or;

(iii) a cycloaliphatic hydrocarbon, optionally substituted.

The Z substituent is at the anomeric position.